

SEQUENCE LISTING

INFORMATION FOR SEQ ID NO:1:

SEQUENCE CHARACTERISTICS:

LENGTH:331

TYPE:amino acid

TOPOLOGY:linear

MOLECULE TYPE:peptide

SEQUENCE DESCRIPTION: SEQ ID NO:1

Asp Ser Asp Asp Arg Val Thr Pro Pro Ala Glu Pro Leu Asp Arg Met

1 5 10 15

Pro Asp Pro Tyr Arg Pro Ser Tyr Gly Arg Ala Glu Thr Val Val Asn

20 25 30

Asn Tyr Ile Arg Lys Trp Gln Gln Val Tyr Ser His Arg Asp Gly Arg

35 40 45

Lys Gln Gln Met Thr Glu Glu Gln Arg Glu Trp Leu Ser Tyr Gly Cys

50 55 60

Val Gly Val Thr Trp Val Asn Ser Gly Gln Tyr Pro Thr Asn Arg Leu

65 70 75 80

Ala Phe Ala Ser Phe Asp Glu Asp Arg Phe Lys Asn Glu Leu Lys Asn

85 90 95

Gly Arg Pro Arg Ser Gly Glu Thr Arg Ala Glu Phe Glu Gly Arg Val

100

105

110

Ala Lys Glu Ser Phe Asp Glu Glu Lys Gly Phe Gln Arg Ala Arg Glu

115

120

125

Val Ala Ser Val Met Asn Arg Ala Leu Glu Asn Ala His Asp Glu Ser

130

135

140

Ala Tyr Leu Asp Asn Leu Lys Lys Glu Leu Ala Asn Gly Asn Asp Ala

145

150

155

160

Leu Arg Asn Glu Asp Ala Arg Ser Pro Phe Tyr Ser Ala Leu Arg Asn

165

170

175

Thr Pro Ser Phe Lys Glu Arg Asn Gly Gly Asn His Asp Pro Ser Arg

180

185

190

Met Lys Ala Val Ile Tyr Ser Lys His Phe Trp Ser Gly Gln Asp Arg

195

200

205

Ser Ser Ser Ala Asp Lys Arg Lys Tyr Gly Asp Pro Asp Ala Phe Arg

210

215

220

Pro Ala Pro Gly Thr Gly Leu Val Asp Met Ser Arg Asp Arg Asn Ile

225

230

235

240

Pro Arg Ser Pro Thr Ser Pro Gly Glu Gly Phe Val Asn Phe Asp Tyr

245

250

255

Gly Trp Phe Gly Ala Gln Thr Glu Ala Asp Ala Asp Lys Thr Val Trp

260

265

270

Thr His Gly Asn His Tyr His Ala Pro Asn Gly Ser Leu Gly Ala Met

275

280

285

His Val Tyr Glu Ser Lys Phe Arg Asn Trp Ser Glu Gly Tyr Ser Asp

290

295

300

Phe Asp Arg Gly Ala Tyr Val Ile Thr Phe Ile Pro Lys Ser Trp Asn

305

310

315

320

Thr Ala Pro Asp Lys Val Lys Gln Gly Trp Pro

325

330

INFORMATION FOR SEQ ID NO:2:

SEQUENCE CHARACTERISTICS:

LENGTH: 993

TYPE: nucleic acid

STRANDEDNESS: double

TOPOLOGY: linear

MOLECULE TYPE: other nucleic acid synthetic DNA

FEATURE

FEATURE KEY: CDS

LOCATION: 1..993

IDENTIFICATION METHOD: S

SEQUENCE DESCRIPTION: SEQ ID NO:2

biosequences.com

GAT TCT GAC GAT CGT GTT ACT CCA CCA GCT GAA CCA CTG GAT CGT ATG

48

Asp Ser Asp Asp Arg Val Thr Pro Pro Ala Glu Pro Leu Asp Arg Met

1

5

10

15

CCA GAT CCA TAT CGT CCA TCT TAT GGT CGT GCT GAA ACT GTT GTT AAT

96

Pro Asp Pro Tyr Arg Pro Ser Tyr Gly Arg Ala Glu Thr Val Val Asn

20

25

30

AAT TAT ATT CGT AAA TGG CAA CAA GTT TAT TCT CAT CGT GAT GGT CGT

144

Asn Tyr Ile Arg Lys Trp Gln Gln Val Tyr Ser His Arg Asp Gly Arg

35

40

45

AAA CAA CAA ATG ACT GAA GAA CAA CGT GAA TGG CTG TCT TAT GGT TGC

192

Lys Gln Gln Met Thr Glu Glu Gln Arg Glu Trp Leu Ser Tyr Gly Cys

50

55

60

GTT GGT GTT ACT TGG GTT AAC TCT GGT CAG TAT CCG ACT AAC CGT CTG

240

Val Gly Val Thr Trp Val Asn Ser Gly Gln Tyr Pro Thr Asn Arg Leu

65

70

75

80

GCA TTC GCT TCC TTC GAT GAA GAT CGT TTC AAG AAC GAA CTG AAG AAC

288

Ala Phe Ala Ser Phe Asp Glu Asp Arg Phe Lys Asn Glu Leu Lys Asn

85

90

95

GGT CGT CCG CGT TCT GGT GAA ACT CGT GCT GAA TTC GAA GGT CGT GTT

336

Gly Arg Pro Arg Ser Gly Glu Thr Arg Ala Glu Phe Glu Gly Arg Val

100

105

110

GCT AAG GAA TCC TTC GAT GAA GAG AAA GGC TTC CAG CGT GCT CGT GAA

384

Ala Lys Glu Ser Phe Asp Glu Glu Lys Gly Phe Gln Arg Ala Arg Glu

115

120

125

GTT GCT TCT GTT ATG AAC CGT GCT CTA GAG AAC GCT CAT GAT GAA TCT

432

Val Ala Ser Val Met Asn Arg Ala Leu Glu Asn Ala His Asp Glu Ser

130

135

140

GCT TAC CTG GAT AAC CTG AAG AAG GAA CTG GCT AAC GGT AAC GAT GCT

480

Ala Tyr Leu Asp Asn Leu Lys Lys Glu Leu Ala Asn Gly Asn Asp Ala

145

150

155

160

CTG CGT AAC GAA GAT GCT CGT TCT CCG TTC TAC TCT GCT CTG CGT AAC

528

Leu Arg Asn Glu Asp Ala Arg Ser Pro Phe Tyr Ser Ala Leu Arg Asn

165

170

175

ACT CCG TCC TTC AAA GAA CGT AAC GGT GGT AAC CAT GAT CCG TCT CGT

576

Thr Pro Ser Phe Lys Glu Arg Asn Gly Gly Asn His Asp Pro Ser Arg

180

185

190

ATG AAA GCT GTT ATC TAC TCT AAA CAT TTC TGG TCT GGT CAG GAT AGA

624

Met Lys Ala Val Ile Tyr Ser Lys His Phe Trp Ser Gly Gln Asp Arg

195

200

205

TCT TCT TCT GCT GAT AAA CGT AAA TAC GGT GAT CCG GAT GCA TTC CGT

672

Ser Ser Ser Ala Asp Lys Arg Lys Tyr Gly Asp Pro Asp Ala Phe Arg

210

215

220

CCG GCT CCG GGT ACT GGT CTG GTA GAC ATG TCT CGT GAT CGT AAC ATC

720

Pro Ala Pro Gly Thr Gly Leu Val Asp Met Ser Arg Asp Arg Asn Ile

225

230

235

240

CCG CGT TCT CCG ACT TCT CCG GGT GAA GGC TTC GTT AAC TTC GAT TAC

768

Pro Arg Ser Pro Thr Ser Pro Gly Glu Gly Phe Val Asn Phe Asp Tyr

245

250

255

GGT TGG TTC GGT GCT CAG ACT GAA GCT GAT GCT GAT AAG ACT GTA TGG

816

Gly Trp Phe Gly Ala Gln Thr Glu Ala Asp Ala Asp Lys Thr Val Trp

260

265

270

ACC CAT GGT AAC CAT TAC CAT GCT CCG AAC GGT TCT CTG GGT GCT ATG

864

Thr His Gly Asn His Tyr His Ala Pro Asn Gly Ser Leu Gly Ala Met

275

280

285

CAT GTA TAC GAA TCT AAA TTC CGT AAC TGG TCT GAA GGT TAC TCT GAC

912

His Val Tyr Glu Ser Lys Phe Arg Asn Trp Ser Glu Gly Tyr Ser Asp

290

295

300

TTC GAT CGT GGT GCT TAC GTT ATC ACC TTC ATT CCG AAA TCT TGG AAC

960

Phe Asp Arg Gly Ala Tyr Val Ile Thr Phe Ile Pro Lys Ser Trp Asn

305

310

315

320

ACT GCT CCG GAC AAA GTT AAA CAG GGT TGG CCG

993

Thr Ala Pro Asp Lys Val Lys Gln Gly Trp Pro

325

330

INFORMATION FOR SEQ ID NO:3:

SEQUENCE CHARACTERISTICS:

LENGTH: 1518

TYPE: nucleic acid

STRANDEDNESS: double

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

FEATURE

FEATURE KEY:CDS

LOCATION: 87..1082

IDENTIFICATION METHOD:S

SEQUENCE DESCRIPTION: SEQ ID NO:3

TTCCCTGTT GACAATTAAT CATCGAACTA GTTAACTAGT ACGCAAGTTC ACGTAAAAAG

60

GGTATCGATT AGTAAGGAGG TTTAAA ATG GAT TCT GAC GAT CGT GTT ACT CCA

113

Met Asp Ser Asp Asp Arg Val Thr Pro

1

5

CCA GCT GAA CCA CTG GAT CGT ATG CCA GAT CCA TAT CGT CCA TCT TAT

161

Pro Ala Glu Pro Leu Asp Arg Met Pro Asp Pro Tyr Arg Pro Ser Tyr

10

15

20

25

GGT CGT GCT GAA ACT GTT GTT AAT AAT TAT ATT CGT AAA TGG CAA CAA

209

Gly Arg Ala Glu Thr Val Val Asn Asn Tyr Ile Arg Lys Trp Gln Gln

30

35

40

GTT TAT TCT CAT CGT GAT GGT CGT AAA CAA CAA ATG ACT GAA GAA CAA

257

Val Tyr Ser His Arg Asp Gly Arg Lys Gln Gln Met Thr Glu Glu Gln

45

50

55

CGT GAA TGG CTG TCT TAT GGT TGC GTT GGT GTT ACT TGG GTT AAC TCT

305

Arg Glu Trp Leu Ser Tyr Gly Cys Val Gly Val Thr Trp Val Asn Ser

60

65

70

GGT CAG TAT CCG ACT AAC CGT CTG GCA TTC GCT TCC TTC GAT GAA GAT

353

Gly Gln Tyr Pro Thr Asn Arg Leu Ala Phe Ala Ser Phe Asp Glu Asp

75

80

85

CGT TTC AAG AAC GAA CTG AAG AAC GGT CGT CCG CGT TCT GGT GAA ACT

401

Arg Phe Lys Asn Glu Leu Lys Asn Gly Arg Pro Arg Ser Gly Glu Thr

90

95

100

105

CGT GCT GAA TTC GAA GGT CGT GTT GCT AAG GAA TCC TTC GAT GAA GAG

449

Arg Ala Glu Phe Glu Gly Arg Val Ala Lys Glu Ser Phe Asp Glu Glu

110

115

120

AAA GGC TTC CAG CGT GCT CGT GAA GTT GCT TCT GTT ATG AAC CGT GCT

497

Lys Gly Phe Gln Arg Ala Arg Glu Val Ala Ser Val Met Asn Arg Ala

125

130

135

CTA GAG AAC GCT CAT GAT GAA TCT GCT TAC CTG GAT AAC CTG AAG AAG

545

Leu Glu Asn Ala His Asp Glu Ser Ala Tyr Leu Asp Asn Leu Lys Lys

140

145

150

GAA CTG GCT AAC GGT AAC GAT GCT CTG CGT AAC GAA GAT GCT CGT TCT

593

Glu Leu Ala Asn Gly Asn Asp Ala Leu Arg Asn Glu Asp Ala Arg Ser

155

160

165

CCG TTC TAC TCT GCT CTG CGT AAC ACT CCG TCC TTC AAA GAA CGT AAC

641

Pro Phe Tyr Ser Ala Leu Arg Asn Thr Pro Ser Phe Lys Glu Arg Asn

170

175

180

185

GGT GGT AAC CAT GAT CCG TCT CGT ATG AAA GCT GTT ATC TAC TCT AAA

689

Gly Gly Asn His Asp Pro Ser Arg Met Lys Ala Val Ile Tyr Ser Lys

190

195

200

CAT TTC TGG TCT GGT CAG GAT AGA TCT TCT TCT GCT GAT AAA CGT AAA

737

His Phe Trp Ser Gly Gln Asp Arg Ser Ser Ser Ala Asp Lys Arg Lys

205

210

215

TAC GGT GAT CCG GAT GCA TTC CGT CCG GCT CCG GGT ACT GGT CTG GTA

785

Tyr Gly Asp Pro Asp Ala Phe Arg Pro Ala Pro Gly Thr Gly Leu Val

220

225

230

GAC ATG TCT CGT GAT CGT AAC ATC CCG CGT TCT CCG ACT TCT CCG GGT

833

Asp Met Ser Arg Asp Arg Asn Ile Pro Arg Ser Pro Thr Ser Pro Gly

235

240

245

GAA GGC TTC GTT AAC TTC GAT TAC GGT TGG TTC GGT GCT CAG ACT GAA

881

Glu Gly Phe Val Asn Phe Asp Tyr Gly Trp Phe Gly Ala Gln Thr Glu
250 255 260 265

GCT GAT GCT GAT AAG ACT GTA TGG ACC CAT GGT AAC CAT TAC CAT GCT
929

Ala Asp Ala Asp Lys Thr Val Trp Thr His Gly Asn His Tyr His Ala
270 275 280

CCG AAC GGT TCT CTG GGT GCT ATG CAT GTA TAC GAA TCT AAA TTC CGT
977

Pro Asn Gly Ser Leu Gly Ala Met His Val Tyr Glu Ser Lys Phe Arg
285 290 295

AAC TGG TCT GAA GGT TAC TCT GAC TTC GAT CGT GGT GCT TAC GTT ATC
1025

Asn Trp Ser Glu Gly Tyr Ser Asp Phe Asp Arg Gly Ala Tyr Val Ile
300 305 310

ACC TTC ATT CCG AAA TCT TGG AAC ACT GCT CCG GAC AAA GTT AAA CAG
1073

Thr Phe Ile Pro Lys Ser Trp Asn Thr Ala Pro Asp Lys Val Lys Gln
315 320 325

GGT TGG CCG TAATGAAAGC TTGGATCTCT AATTACTGGA CTTCACACAG ACTAAATAG
1131

Gly Trp Pro

330

ACATATCTTA TATTATGTGA TTTTGTGACA TTTCTAGAT GTGAGGTGGA GGTGATGTAT

1191

AAGGTAGATG ATGATCCTCT ACGCCGGACG CATCGTGGCC GGCATCACCG GCGCCACAGG

1251

TGCGGTTGCT GGCGCCTATA TCGCCGACAT CACCGATGGG GAAGATCGGG CTCGCCACTT

1311

CGGGCTCATG AGCGCTTGTT TCGGCGTGGG TATGGTGGCA GGCCCCGTGG CCGGGGGACT

1371

GTTGGGCGCC ATCTCCTTGC ATGCACCATT CCTTGCGGCG GCGGTGCTCA ACGGCCTCAA

1431

CCTACTACTG GGCTGCTTCC TAATGCAGGA GTCGCATAAG GGAGAGCGTC GAGAGCCCGC

1491

CTAATGAGCG GGCTTTTTT TCAGCTG

1518

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INFORMATION FOR SEQ ID NO:4:

SEQUENCE CHARACTERISTICS:

LENGTH:39

TYPE:nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:4

AATTCAATCGA TTAGTAAGGA GGTTTAAAT GGATTCTGA

39

INFORMATION FOR SEQ ID NO:5:

3 8

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:5

CGATCGTCAG AATCCATTAAACCTCCTT ACTAATCGAT G

41

INFORMATION FOR SEQ ID NO:6:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:6

CGATCGTGT ACTCCACCACTG CTGAACCACT GGATCGTATG C

41

INFORMATION FOR SEQ ID NO:7:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:7

GATCTGGCAT ACGATCCAGT GGTCAGCTG GTGGAGTAAC A

41

INFORMATION FOR SEQ ID NO:8:

SEQUENCE CHARACTERISTICS:

LENGTH: 41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:8

CAGATCCATA TCGTCCATCT TATGGTCGTG CTGAAACTGT T

41

INFORMATION FOR SEQ ID NO:9:

SEQUENCE CHARACTERISTICS:

LENGTH: 41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:9

ATTAACAACA GTTTCAGCAC GACCATAAGA TGGACGATAT G

41

INFORMATION FOR SEQ ID NO:10:

SEQUENCE CHARACTERISTICS:

LENGTH: 41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:10

GTAAATAATT ATATTCGTAATGGCAACAA GTTTATTCTCA

41

INFORMATION FOR SEQ ID NO:11:

SEQUENCE CHARACTERISTICS:

LENGTH: 41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:11

TCACCGATGAG AATAAACTTG TTGCCATTAA CGAATATAAT T

4 1

INFORMATION FOR SEQ ID NO:12:

SEQUENCE CHARACTERISTICS:

LENGTH: 41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:12

TCGTGATGGT CGTAAACAAAC AAATGACTGA AGAACAAACGT G

INFORMATION FOR SEQ ID NO:13:

SEQUENCE CHARACTERISTICS:

LENGTH: 41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:13

GCCATTACG TTGTTCTTCA GTCATTTGTT GTTTACGACC A

INFORMATION FOR SEQ ID NO:14:

SEQUENCE CHARACTERISTICS:

LENGTH:42

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:14

AATGGCTGTC TTATGGTTGC GTTGGTGTAA CTTGGGTAA CA

42

INFORMATION FOR SEQ ID NO:15:

SEQUENCE CHARACTERISTICS:

LENGTH:40

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:15

AGCTTGTAA CCCAAGTAAC ACCAACGCAA CCATAAGACA

40

INFORMATION FOR SEQ ID NO:16:

SEQUENCE CHARACTERISTICS:

LENGTH:38

TYPE: nucleic acid
STRANDEDNESS:single
TOPOLOGY: linear
MOLECULE TYPE:other nucleic acid synthetic DNA
SEQUENCE DESCRIPTION: SEQ ID NO:16

AATTCGTTAA CTCTGGTCAG TATCCGACTA ACCGTCTG

38

D 9 6 8 4 5 7 0 0 6 6 2 1 6 0 1

INFORMATION FOR SEQ ID NO:17:

SEQUENCE CHARACTERISTICS:
LENGTH:41
TYPE: nucleic acid
STRANDEDNESS:single
TOPOLOGY: linear
MOLECULE TYPE:other nucleic acid synthetic DNA
SEQUENCE DESCRIPTION: SEQ ID NO:17

CGAATGCCAG ACGGTTAGTC GGATACTGAC CAGAGTTAAC G

41

INFORMATION FOR SEQ ID NO:18:

SEQUENCE CHARACTERISTICS:
LENGTH:49
TYPE: nucleic acid
STRANDEDNESS:single
TOPOLOGY: linear

4 4

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:18

GCATTCGCTT CCTTCGATGA AGATCGTTTC AAGAACGAAC TGAAGAACG

49

INFORMATION FOR SEQ ID NO:19:

SEQUENCE CHARACTERISTICS:

LENGTH:49

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:19

GGACGACCGT TCTTCAGTTC GTTCTTGAAA CGATCTTCAT CGAAGGAAG

49

INFORMATION FOR SEQ ID NO:20:

SEQUENCE CHARACTERISTICS:

LENGTH:35

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:20

GTCGTCCGCG TTCTGGTGAA ACTCGTGCTG AATTC

INFORMATION FOR SEQ ID NO:21:

SEQUENCE CHARACTERISTICS:

LENGTH:35

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:21

GACCTTCGAA TTCAGCACGA GTTTCACCAG AACGC

35

INFORMATION FOR SEQ ID NO:22:

SEQUENCE CHARACTERISTICS:

LENGTH:48

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:22

GAAGGTCGTG TTGCTAAGGA ATCCTTCGAT GAAGAGAAAG GCTTCCAG

48

INFORMATION FOR SEQ ID NO:23:

SEQUENCE CHARACTERISTICS:

LENGTH: 48

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:23

GAGCACGCTG GAAGCCTTC TCTTCATCGA AGGATTCCCTT AGCAACAC

48

INFORMATION FOR SEQ ID NO:24:

SEQUENCE CHARACTERISTICS:

LENGTH: 42

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:24

CGTGCTCGTG AAGTTGCTTC TGTATGAAC CGTGCTCTAG AA

42

INFORMATION FOR SEQ ID NO:25:

SEQUENCE CHARACTERISTICS:

LENGTH: 39

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:25

AGCTTTCTAG AGCACGGTTC ATAACAGAAG CAACTTCAC

39

0983454666 0983454666 0983454666 0983454666

INFORMATION FOR SEQ ID NO:26:

SEQUENCE CHARACTERISTICS:

LENGTH:45

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:26

AATTCTCTAG AGAACGCTCA TGATGAATCT GCTTACCTGG ATAAC

45

INFORMATION FOR SEQ ID NO:27:

SEQUENCE CHARACTERISTICS:

LENGTH:50

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

4 8

SEQUENCE DESCRIPTION: SEQ ID NO:27

CTTCTTCAGG TTATCCAGGT AAGCAGATTC ATCATGAGCG TTCTCTAGAG

50

INFORMATION FOR SEQ ID NO:28:

SEQUENCE CHARACTERISTICS:

LENGTH:49

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:28

CTGAAGAAGG AACTGGCTAA CGGTAACGAT GCTCTGCGTA ACCAAGATG

49

INFORMATION FOR SEQ ID NO:29:

SEQUENCE CHARACTERISTICS:

LENGTH:49

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:29

GAGAACGAGC ATCTTCGTTA CGCAGAGCAT CGTTACCGTT AGCCAGTTC

INFORMATION FOR SEQ ID NO:30

SEQUENCE CHARACTERISTICS:

LENGTH: 40

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE: other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:30

CTCGTTCTCC GTTCTACTCT GCTCTGCGTA ACACTCCGTC

40

INFORMATION FOR SEQ ID NO:31:

SEQUENCE CHARACTERISTICS:

LENGTH: 39

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE: other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:31

CTTTGAAGGA CGGAGTGTAA CGCAGAGCAG AGTAGAACG

39

INFORMATION FOR SEQ ID NO:32:

SEQUENCE CHARACTERISTICS:

LENGTH: 47

TYPE: nucleic acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:32

CTTCAAAGAA CGTAACGGTG GTAACCATGA TCCGTCTCGT ATGAAAG

47

INFORMATION FOR SEQ ID NO:33:

SEQUENCE CHARACTERISTICS:

LENGTH: 47

TYPE: nucleic acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:33

GATAACAGCT TTCATACCGAG ACGGATCATG GTTACCACCG TTACGTT

47

INFORMATION FOR SEQ ID NO:34:

SEQUENCE CHARACTERISTICS:

LENGTH: 45

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:34

CTGTTATCTA CTCTAACAT TTCTGGTCTG GTCAGGATAG ATCTA

45

INFORMATION FOR SEQ ID NO:35:

SEQUENCE CHARACTERISTICS:

LENGTH: 41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:35

AGCTTAGATC TATCCTGACC AGACCAGAAA TGTTTAGAGT A

41

INFORMATION FOR SEQ ID NO:36:

SEQUENCE CHARACTERISTICS:

LENGTH: 42

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:36

AATTCAGATC TTCTTCTGCT GATAAACGTA AATACGGTGA TC

42

INFORMATION FOR SEQ ID NO:37:

SEQUENCE CHARACTERISTICS:

LENGTH:44

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:37

CATCCGGATC ACCGTATTAA CGTTTATCAG CAGAAGAAGA TCTG

44

INFORMATION FOR SEQ ID NO:38:

SEQUENCE CHARACTERISTICS:

LENGTH:48

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:38

CGGATGCATT CCGTCCGGCT CCGGGTACTG GTCTGGTAGA CATGTCTC

48

INFORMATION FOR SEQ ID NO:39:

SEQUENCE CHARACTERISTICS:

LENGTH:48

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:39

GATCACGAGA CATGTCTACC AGACCAGTAC CCGGAGCCGG ACGGAATG

48

INFORMATION FOR SEQ ID NO:40:

SEQUENCE CHARACTERISTICS:

LENGTH:35

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:40

GTGATCGTAA CATCCCGCGT TCTCCGACTT CTCCG

35

INFORMATION FOR SEQ ID NO:41:

SEQUENCE CHARACTERISTICS:

LENGTH:36

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:41

CTTCACCCGG AGAAGTCGGA GAACGCGGGA TGTTAC

36

INFORMATION FOR SEQ ID NO:42:

SEQUENCE CHARACTERISTICS:

LENGTH:40

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:42

GGTGAAAGGCT TCGTTAACTT CGATTACGGT TGGTTCGGTG

40

INFORMATION FOR SEQ ID NO:43:

SEQUENCE CHARACTERISTICS:

LENGTH: 40

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:43

GTCTGAGCAC CGAACCAACC GTAATCGAAG TTAACGAAGC

40

09864336 062164

INFORMATION FOR SEQ ID NO:44

SEQUENCE CHARACTERISTICS:

LENGTH: 44

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:44

CTCAGACTGA AGCTGATGCT GATAAGACTG TATGGACCCA TGGA

44

INFORMATION FOR SEQ ID NO:45

SEQUENCE CHARACTERISTICS:

LENGTH: 41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear
MOLECULE TYPE:other nucleic acid synthetic DNA
SEQUENCE DESCRIPTION: SEQ ID NO:45

AGCTTCCATG GGTCCATACA GTCTTATCAG CATCAGCTTC A

41

INFORMATION FOR SEQ ID NO:46

SEQUENCE CHARACTERISTICS:

LENGTH:39

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA
SEQUENCE DESCRIPTION: SEQ ID NO:46

AATTCCCATG GTAACCATTA CCATGCTCCG AACGGTTCT

39

INFORMATION FOR SEQ ID NO:47

SEQUENCE CHARACTERISTICS:

LENGTH: 42

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA
SEQUENCE DESCRIPTION: SEQ ID NO:47

CACCCAGAGA ACCGTTCGGA GCATGGTAAT GGTTACCATG GG

42

INFORMATION FOR SEQ ID NO:48

SEQUENCE CHARACTERISTICS:

LENGTH: 41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:48

CTGGGTGCTA TGCATGTATA CGAATCTAAA TTCCGTAAC G

41

INFORMATION FOR SEQ ID NO:49

SEQUENCE CHARACTERISTICS:

LENGTH: 42

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:49

CTTCAGACCA GTTACGGAAT TTAGATTCGT ATACATGCAT AG

42

INFORMATION FOR SEQ ID NO:50

SEQUENCE CHARACTERISTICS:

LENGTH: 37

TYPE: nucleic acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:50

GTCTGAAGGT TACTCTGACT TCGATCGTGG TGCTTAC

37

INFORMATION FOR SEQ ID NO:51

SEQUENCE CHARACTERISTICS:

LENGTH: 37

TYPE: nucleic acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:51

GTGATAACGT AAGCACCACG ATCGAAGTCA GAGTAAC

37

INFORMATION FOR SEQ ID NO:52

5 9

SEQUENCE CHARACTERISTICS:

LENGTH:38

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:52

GTTATCACCT TCATTCCGAA ATCTTGGAAC ACTGCTCC

38

INFORMATION FOR SEQ ID NO:53

SEQUENCE CHARACTERISTICS:

LENGTH:38

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:53

CTTTGTCCGG AGCAGTGTTC CAAGATTCG GAATGAAG

38

INFORMATION FOR SEQ ID NO:54

SEQUENCE CHARACTERISTICS:

LENGTH:38

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:54

GGACAAAGTT AACAGGGTT GGCGTAATG AAAGCTTA

38

INFORMATION FOR SEQ ID NO:55

SEQUENCE CHARACTERISTICS:

LENGTH:34

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:55

AGCTTAAGCT TTCATTACGG CCAACCCTGT TTAA

34

INFORMATION FOR SEQ ID NO:56

SEQUENCE CHARACTERISTICS:

LENGTH:20

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

6 1

SEQUENCE DESCRIPTION: SEQ ID NO:56

TTTTCCCACT CACGACGTTG

20

INFORMATION FOR SEQ ID NO:57

SEQUENCE CHARACTERISTICS:

LENGTH:21

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:57

CAGGAAACAG CTATGACCAT G

21

INFORMATION FOR SEQ ID NO:58

SEQUENCE CHARACTERISTICS:

LENGTH:36

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:58

TAAGGAGGTT TAAAATGTCT GACGATCGTG TTACTC

INFORMATION FOR SEQ ID NO:59

SEQUENCE CHARACTERISTICS:

LENGTH: 21

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:59

TACGCCAAGG TTGTTAACCC A

21